NPS Form 10-900
OMB No. 1024-0018
(Rev. 10/90)

United States Department of the Interior
National Park Service

National Register of Historic Places Registration Form

1. **Name of Property**

Historic name: N/A

Other name/site number: Delaware River Parker Truss Bridge (preferred); 44-HT-07

2. **Location** On Bridge Street (old Hwy 24), 0.3 miles west of the intersection with Main Street.

not for publication

city or town Perry N/A vicinity

state code KS county Jefferson county code 087 zip code 66073

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act of 1986, as amended, I hereby certify that this XX nomination ___request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property XX meets does not meet the National Register criteria. I recommend that this property be considered significant ___nationally XX statewide ___locally. (___ See continuation sheet for additional comments.)

Richard D. Pankratz 4/09/03
Signature of certifying official Date

KANSAS STATE HISTORICAL SOCIETY
State or Federal agency and bureau

In my opinion, the property ___meets ___does not meet the National Register criteria.
(___ See continuation sheet for additional comments.)

Signature of commenting or other official Date

State or Federal agency and bureau

4. National Park Service Certification

I, hereby, certify that this property is:

___ entered in the National Register.
___ See continuation sheet
___ determined eligible for the National Register.
___ See continuation sheet
___ determined not eligible for the National Register.
___ removed from the National Register.
___ other, (explain:)

Signature of Keeper Date of Action

5. Classification

Ownership of Property	Category of Property	No. of Resources within Property	
		contributing	noncontributing
___ private	___ building(s)		
X public-local	___ district	____	____ buildings
___ public-State	___ site	____	____ sites
___ public-Federal	X structure	1	____ structures
	___ object	____	____ objects
		1	0 Total

Name of related multiple property listing:
(Enter "N/A" if property is not part of a multiple property listing.):

Metal Truss Bridges in Kansas

No. of contributing resources previously listed in the National Register

0

6. Functions or Use

Historic Functions
(Enter categories from instructions.)

TRANSPORTATION: Road-related (vehicular)

Current Functions
(Enter categories from instructions.)

TRANSPORTATION: Road-related (vehicular)

7. Description

Architectural Classification
(Enter categories from instructions.)

OTHER: Parker Truss

Materials
(Enter categories from instructions.)

Foundation Concrete
Walls
Roof
Other Metal: Steel

Narrative Description (Describe the historic and current condition of the property on one or more continuation sheets.)

8. Statement of Significance

Applicable National Register Criteria (Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing.)

____ A Property is associated with events that have made a significant contribution to the broad patterns of our history.

____ B Property is associated with the lives of persons significant in our past.

_X_ C Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.

____ D Property has yielded, or is likely to yield, information important in prehistory or history.

Criteria Considerations (Mark "x" in all the boxes that apply.)

____ A owned by a religious institution or used for religious purposes.

____ B removed from its original location.

____ C a birthplace or a grave.

____ D a cemetery.

____ E a reconstructed building, object, or structure.

____ F a commemorative property.

____ G less than 50 years of age or achieved significance within the past 50 years.

Areas of Significance (Enter categories from instructions.)	Period of Significance	Significant Dates
ENGINEERING	1926	1926
TRANSPORTATION		

Cultural Affiliation: N/A

Significant Person	Architect/Builder
N/A	Midland Bridge Co. (Kansas City, Missouri), Kansas City Structural Steel Co. (Kansas City, Missouri), Yancy Bros. Construction Co.

Narrative Description (Describe the historic and current condition of the property on one or more continuation sheets.)

9. Major Bibliographical References

(Cite the books, articles, and other sources used in preparing this form on one or more continuation sheets.)

Previous documentation on file (NPS):

____ preliminary determination of individual listing (36 CFR 67) has been requested
____ previously listed in the National Register
____ previously determined eligible by the National Register
____ designated a National Historic Landmark
____ recorded by Historic American Buildings Survey # _____
____ recorded by Historic American Engineering Record # _____

Primary location of additional data:

__X__ State Historic Preservation Office
____ Other State agency
____ Federal agency
__X__ Local government
____ University
____ Other

Specify repository:

10. Geographical Data

Acreage of property <1 acre

UTM References

	Zone	Easting	Northing		Zone	Easting	Northing
1	15	292142	4327650	3	/	/ / / / /	/ / / / / /
2	/	/ / / / /	/ / / / / /	4	/	/ / / / /	/ / / / / /

___ See continuation sheet

Verbal Boundary Description (Describe the boundaries of the property on a continuation sheet.)

Boundary Justification (Explain why the boundaries were selected on a continuation sheet.)

11. Form Prepared By

name/title Kerry Davis, Architectural Historian & Elizabeth Rosin, Partner

organization Historic Preservation Services date August 5, 2002

street & number 323 West Eighth Street, Suite 112 telephone (816) 221-5133

city or town Kansas City state Missouri zip code 64105

Additional Documentation

Submit the following items with the completed form:

Continuation Sheets

Maps

A USGS map (7.5 or 15 minute series) indicating the property's location.
A sketch map for historic districts and properties having large acreage or numerous resources.

Photographs

Representative black-and-white photographs of the property.

Additional items (Check with the SHPO or FPO for any additional items.)

Property Owners (Complete this item at the request of the SHPO or FPO.)

Name County of Jefferson

street & number 300 Jefferson, P.O. Box 321 telephone 785-863-2211

city or town Oskaloosa state KS zip code 66066

DESCRIPTION

LOCATION AND SETTING

The Delaware River Parker Truss Bridge is located at the western city limits of Perry in northeast Kansas; SW ¼ of Section 22, Township 11S, Range 18E. The region is defined by rounded hills and broad, wooded valleys. The Delaware River Parker Truss Bridge carries Bridge Street across the Delaware River, a wide, deep course that flows into the Kansas River less then 2 miles southeast. The paved roadway, flanked by residential neighborhoods to the east and Kansas River bottomland to the west, aligns directly with the Delaware River Parker Truss Bridge. A double-span Baltimore truss bridge carries the Union Pacific Railroad tracks over the Delaware River approximately 100 yards to the south of the Delaware River Parker Truss Bridge.

TRUSS TYPE

The Delaware River Parker Truss Bridge is a single span riveted through truss[1] that measures 222 feet in length and 20 feet in width.[2] Standard box-form poured concrete abutments with beveled edges support the bearings of the truss, which rest directly on the abutment seats. The abutment side walls extend approximately 15 feet along the approach grades.

Eleven slopes form the polygonal top chords of the truss, creating the arched shape distinctive to a Parker truss.[3] The top chords and inclined end posts consist of two channels, a cover plate, lacing bars, and stay plates; the bottom chords consist of angle stock with stay plates.

The web members include vertical posts that form eleven equivalent panels and diagonal ties that intersect within the three central panels. The vertical posts are composed of channel stock with lacing bars; the diagonal ties are composed of angle stock with stay plates.

A system of intersecting, riveted angle stock forms the portal and sway bracing that connects the top chords at each vertical post, leaving a vertical clearance of 14 feet. Upper lateral angle stock bracing bars intersect diagonally between the top chords.

The concrete and asphalt deck is 20 feet wide with steep, beveled curbs and downspouts. It rises approximately 32 feet above the riverbed on steel I-beam stringers. Floor beams located at the base of each vertical post are structurally integrated among the stringers.

The historic, paired, parallel angle bar guardrails are intact along the length of the bridge. Letters in relief read "ILLINOIS S USA" on several structural components.

---

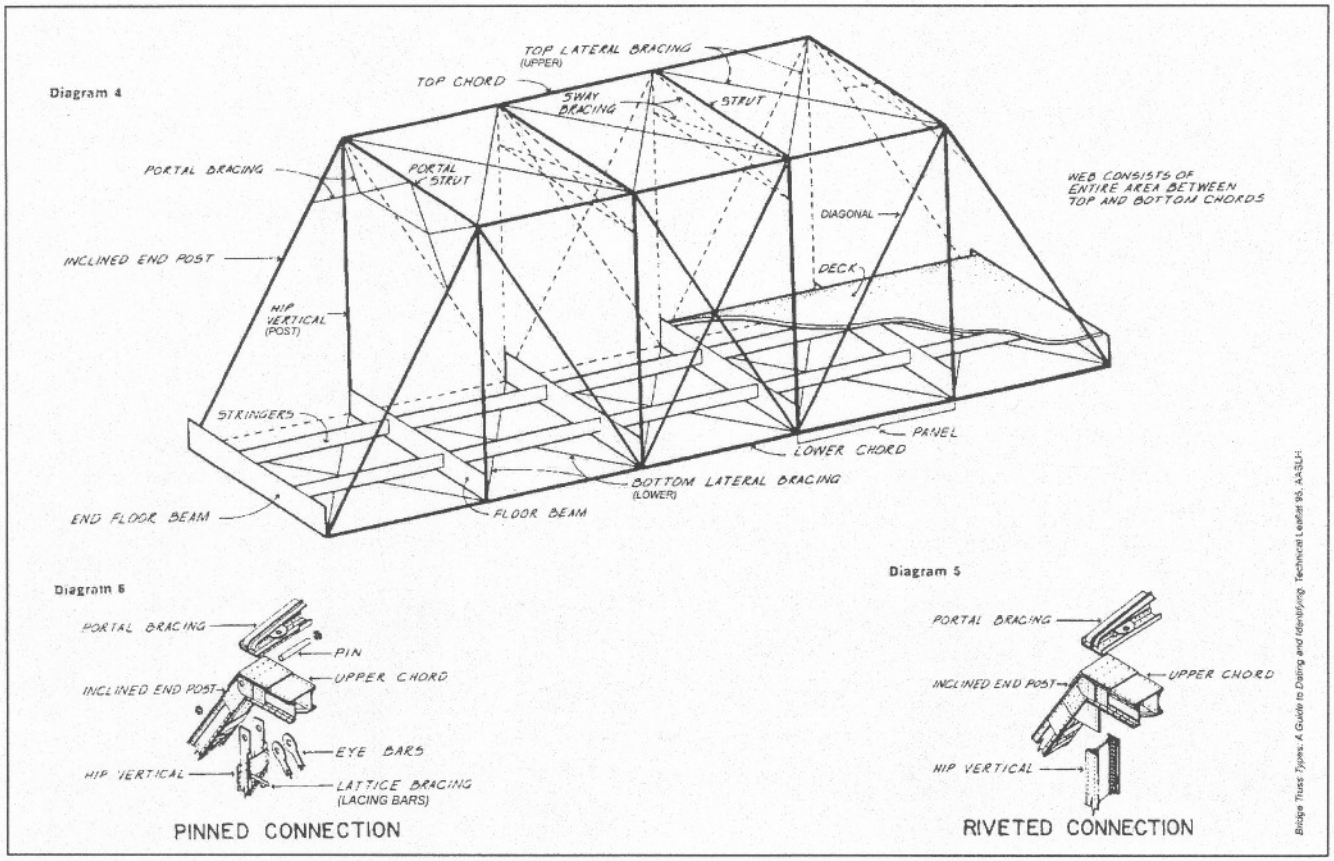
[1] A through truss is also referred to as a high truss.
[2] The length equals the distance between the abutments; the width equals the deck width.
[3] The Parker truss is a Pratt truss with a polygonal top chord of more than five slopes.

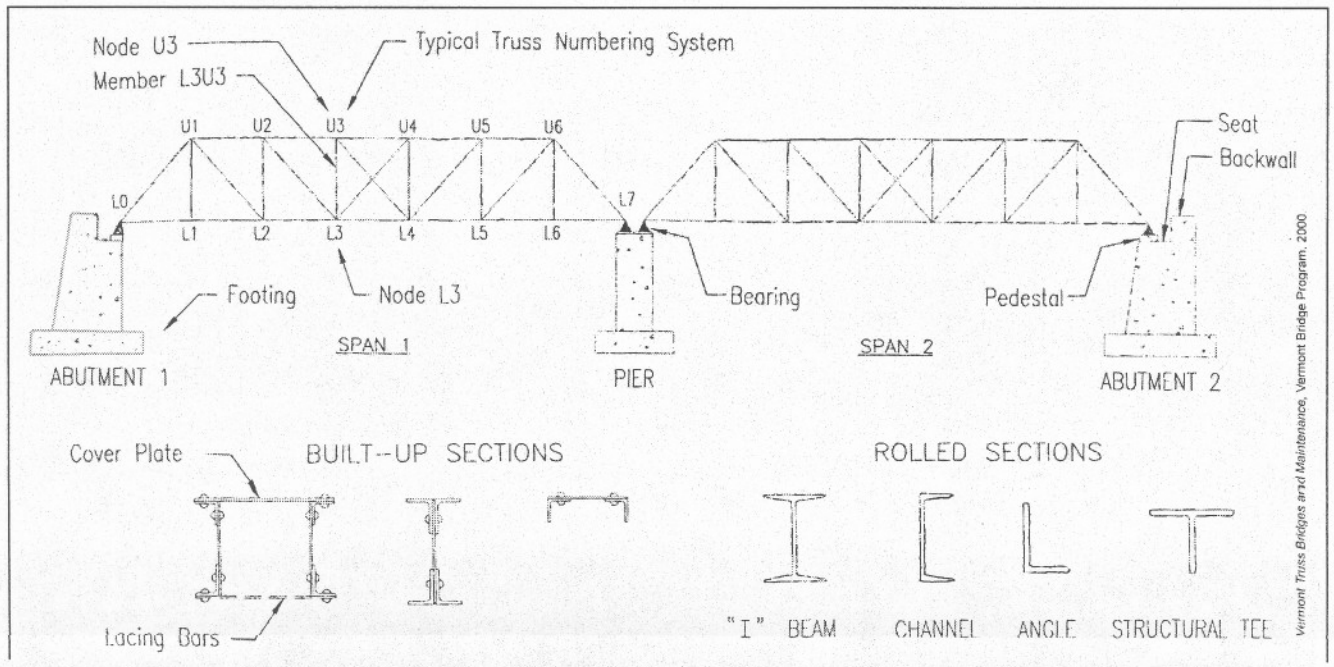
INTEGRITY

The Delaware River Parker Truss Bridge is an excellent example of this bridge type, increasingly rare in Kansas.[4] The Delaware River Parker Truss Bridge retains a high degree of integrity with no apparent alterations to the original design or materials. The original workmanship, materials, design, setting, and feeling of the property are readily apparent. Furthermore, the potential for preservation of the bridge is good. Located on a comparatively lightly traveled road, it is not likely that traffic requirements will necessitate alteration or replacement.

[4] Dale Nimz, *Activity III Review Initial Assessment Metal Truss Bridges.* (Topeka: Kansas State Historical Society, 1998), 6. Nimz stated there were only four Parker trusses possibly eligible for National Register nomination in Kansas.

TRUSS TERMINOLOGY





STATEMENT OF SIGNIFICANCE

The Delaware River Parker Truss Bridge is significant under National Register Criterion C in the areas of Engineering and Transportation. As defined in the *Multiple Property Documentation Form for Metal Truss Bridges in Kansas,* it is an excellent example of the Parker truss bridge type. Built in 1926, the Delaware River Parker Truss Bridge represents a relatively uncommon bridge solution applied to a long span. Its riveted structure and concrete deck and abutments illustrate the standardization of these construction techniques and materials during the period of significance. As no historic name identifies this bridge, the preferred name "Delaware River Parker Truss Bridge" has been assigned. This describes the location, design, and function of the structure.

ELABORATION

The need for all-weather crossings of rivers and streams corresponded to the growth of the market economy across Kansas during the late nineteenth and early twentieth centuries. Bridges provided farmers easy access to markets and could make the difference between growth and stagnation for the many small, young communities across the state.[1] Proximity to a bridge often secured a town's economic stability, and it contributed to a local sense of modernity.

Prior to the 1930s, the railroad was the primary means of long-distance travel and there was little need for roads to extend more than a few dozen miles. With little stimulus for improving roads that would cross multiple jurisdictions, road construction and maintenance remained local concerns. County commissioners often carried the burden of selecting bridge locations, over which much contention was common.

The range of choices for bridge designs and companies was vast. Many of the larger bridge companies sold metal truss bridges through mail order catalogues. County commissioners could simply specify the span, clearance needs, and truss type (if there was a preference), then choose the lowest bidder from the numerous competing companies that had salesmen in the field.

By the late nineteenth century, fabrication of iron and steel was widespread. The speed of construction and the relatively low cost of metal truss bridge parts ensured their popularity over labor-intensive masonry bridges and short-lived timber bridges. Toward the end of the nineteenth century the quality, quantity, and cost of steel improved to such a degree that it virtually replaced wrought iron for bridge construction by 1910.[2]

Most metal trusses were constructed of built-up members composed of mass-produced, standard-shaped channel, plate, and angle stock purchased from one or more of the numerous steel companies nationwide. The bridge companies preassembled trusses in their factories then simply shipped them to the bridge site for installation. Installation involved grading approaches, constructing abutments and piers, erecting preassembled floor and truss members, and placing deck material.

---

[1] Larry Jochims, *Metal Truss Bridges in Kansas 1861-1939, National Register of Historic Places Multiple Property Documentation Form,* (Topeka: Kansas State Historical Society, 1989), E.
[2] Ibid, F.

Before 1900, generally all panel point connections – the locations at which structural bridge elements intersect – were made with the use of a pin. This technique was so widespread that it became one of the distinctive features of American bridge construction in the nineteenth century.[3] However, subsequent advancements in pneumatic riveting techniques greatly improved rivet installation quality, enabling more reliable panel point connections. With the increased portability of this construction technology, the more rigid riveting technique rapidly surpassed pin-connected bridge construction during the first years of the twentieth century. The riveted construction of the Delaware River Parker Truss Bridge illustrates the standardization of this technique.

In addition, the contemporary development of economic cement production promoted the widespread combination of steel and concrete in bridge construction. It was not uncommon for older metal truss bridges to receive new reinforced concrete decks or poured concrete reinforcements for older stone abutments. By the 1920s, reinforced concrete was the standard material for abutments, piers, and decks of steel truss bridges. The poured concrete deck and abutments of the Delaware River Parker Truss Bridge are typical of bridges built during this period.

The Delaware River Parker Truss Bridge is a classic example of this truss design. The Parker truss is a variation of the Pratt truss. Patented in 1844, the Pratt truss incorporates vertical members in compression and diagonal members in tension, a design that reduces the required length of compression members, helping to prevent bending or buckling.[4] The Pratt truss became the most common bridge type of the late nineteenth and early twentieth centuries and spawned numerous variations including Parker, Camelback, Baltimore, Truss Leg Bedstead, Lenticular, and Pennsylvania trusses.[5]

The Parker truss is a Pratt truss with a polygonal top chord. This variation increased truss strength while using the same amount of material; however the lack of uniformity among members often led to increased construction costs.[6] In Kansas, Parker truss bridges were constructed in the early twentieth century, although they were never widespread. In 1998, approximately 4 Parker truss bridges, including the Delaware River Parker Truss Bridge, existed throughout the state of Kansas.[7]

STRUCTURE HISTORY

Surveyed and platted by the Kansas Pacific Railroad Company in 1865, the city of Perry was originally named Perryville for John D. Perry, president of the Eastern Division of the Union Pacific Railroad Company.[8] Perry grew rapidly to become the principal town of Kentucky Township. In 1883, William G. Cutler referred to Perry

---

[3] Ibid, F.
[4] T. Allan Comp and Donald Jackson, *Bridge Truss Types: A guide to dating and identifying.* (Nashville, Tennessee: American Association for State and Local History, Technical Leaflet 95), 8.
[5] Ibid.
[6] Ibid.
[7] Nimz, 6. Nimz stated there were only 4 Parker truss bridges possibly eligible for nomination in Kansas.
[8] "Perry Town History," *LASR – Perry, Kansas.* [article on-line]; available from http//www.lasr.net/leisure/Kansas/Jefferson/perry/body.html; Internet; accessed 16 June 2002.

as "a thriving business point." The city boasted 600 residents, and its commercial establishments included two general merchandise stores, two blacksmiths, two wagon shops, two hotels, a livery stable, a hardware store, a grocery, a drug store, a furniture store, a millinery, a harness shop, a boot and shoe shop, a newspaper printing office, a meat market, a barber shop, a grist mill, a grain elevator, a lumber yard, and a railroad depot. By the 1930s, in spite of a population decline of one-third, Perry continued to serve as a trading and shipping center for area farmers. Typical of small cities throughout Kansas supported by the surrounding agricultural community, fords and bridges that allowed access to local markets were critical to the survival of the regional economy.

In May 1923, the State Highway Commission awarded the Board of County Commissioners of Jefferson County $19,700 in Federal Aid toward the construction of the Delaware River Parker Truss Bridge.[9] The total estimated cost of the bridge was $39,400 and the county anticipated completion by the end of 1924. Payment disputes and subsequent lawsuits led to great delays and the forfeiture of Jefferson County contracts with both Ernest Euler, the fill contractor, and the Midland Bridge & Construction Company of Kansas City, Missouri. In September 1925, the *Perry Mirror* reported that Yancy Brothers Construction Company had contracted to build the concrete deck and abutments and the Kansas City Structural Steel Company of Kansas City, Missouri had contracted for the steelwork.[10] Markings on the structural members indicate that Kansas City Structural Steel Company purchased the stock metal from the Illinois Steel Company of Gary, Indiana.[11] In spite of a few minor weather delays, construction of the Delaware River Parker Truss Bridge was complete in May 1926.

[9] "Federal Aid Secured," *The Farmers Vindicator, Valley Falls, Kansas.* 1 June 1923, 7. They received a total of $53,700 to include several other improvements throughout the county that year.
[10] "And the Bridge Will Be Finished." *Perry Mirror,* 17 September 1925, 5.
[11] Illinois Steel Company was a subsidiary of U.S. Steel at the time.

BIBLIOGRAPHY

"Commissioners Proceedings." *The Perry Mirror,* 7 May 1925, 27 August 1925.

Comp, T. Allan and Donald Jackson. *Bridge Truss Types: A guide to dating and identifying.* Nashville, Tennessee: American Association for State and Local History, Technical Leaflet 95.

Cutler, William G. History of the State of Kansas. Chicago: A. T. Andreas, 1883.

Delaware Historic Bridges, Survey and Evaluation. Historic Architecture and Engineering Series, No. 89. Dover: Delaware Department of Transportation, Division of Highways, 1991.

"Federal Aid Secured." *The Farmers Vindicator, Valley Falls, Kansas,* 1 June 1923, 7.

Historic Bridge Inventory. Kansas Department of Transportation, 24 April 1981.

Historic Highway Bridges in Pennsylvania. Harrisburg: Pennsylvania Department of Transportation and Pennsylvania Historical and Museum Commission, 1986.

"Industrial Images from the Library of Congress," *Illustrated Pittsburgh Retrospective* [article on-line]; available from **http://www.andrew.cmu.edu/user/vck/pghretro.htm**; Internet; accessed 18 March 2002.

Jochims, Larry. *Metal Truss Bridges in Kansas 1861-1939, National Register of Historic Places Multiple Property Documentation Form.* Topeka: Kansas State Historical Society, 1989.

Jochims, Larry. *Riley Creek Bridge, National Register of Historic Places Registration Form.* Topeka: Kansas State Historical Society, 1989.

Kansas Historic Bridge Rating System. Kansas Department of Transportation, 1980-1983.

Nimz, Dale E. *Activity III Review Initial Assessment Metal Truss Bridges.* Topeka: Kansas State Historical Society, 1998.

Perry Mirror, The, 17 September 1925, 25 February 1926, 6 May 1926, 27 May 1926.

"Perry Town History," *LASR – Perry, Kansas.* [article on-line]; available from **http//www.lasr.net/leisure/Kansas/Jefferson/perry/body.html;** Internet; accessed 16 June 2002.

The Second Ohio Historic Bridge Inventory: Evaluation and Preservation Plan. Columbus: Ohio Department of Transportation, 1990.

Vermont Truss Bridges and Maintenance. Vermont Bridge Program, 2000.

WPA Guide to 1930s Kansas. Lawrence: University of Kansas Press, 1984.

GEOGRAPHICAL DATA

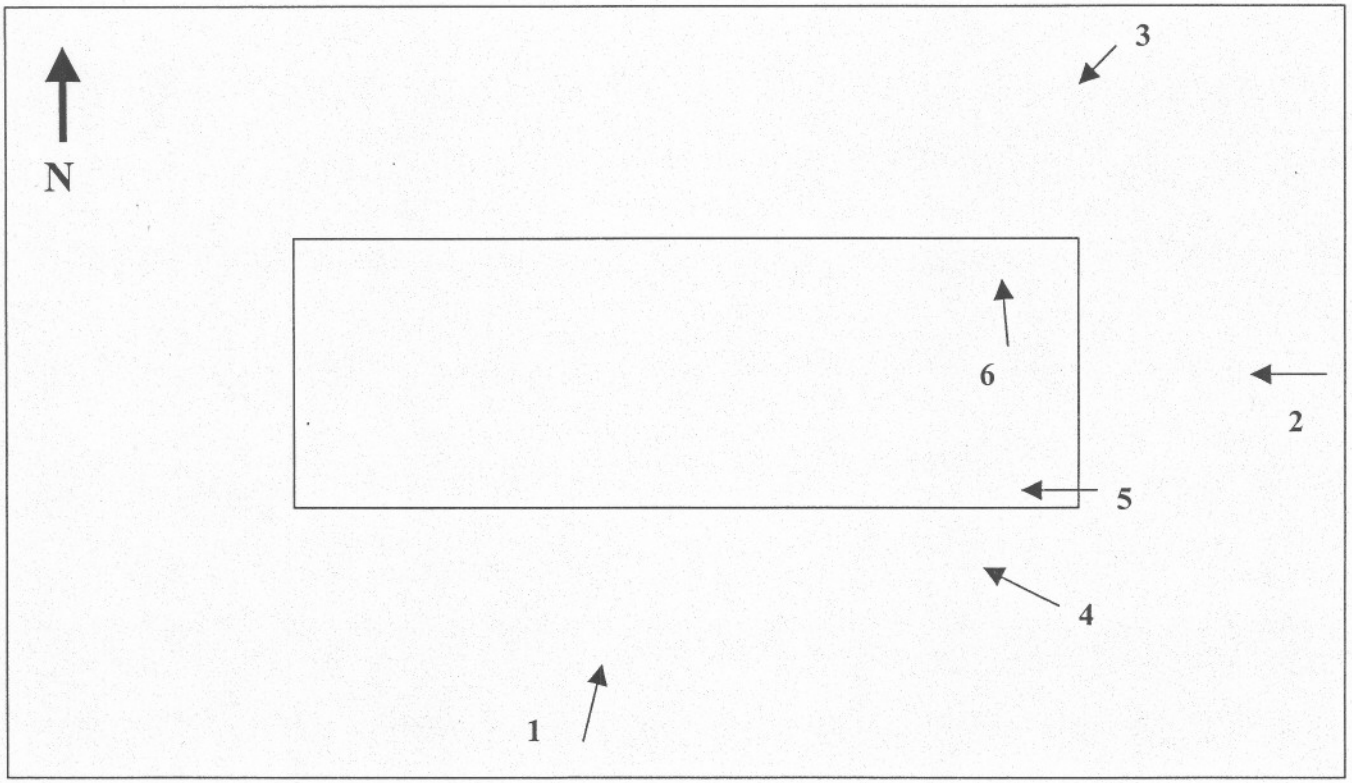
Verbal Boundary Description:
Located on the SW ¼ of Section 22, Township 11S, Range 18E, the Delaware River Parker Truss Bridge encompasses an area measuring approximately 222 feet by 20 feet. The northwest corner of this area corresponds to the northwest corner of the bridge.

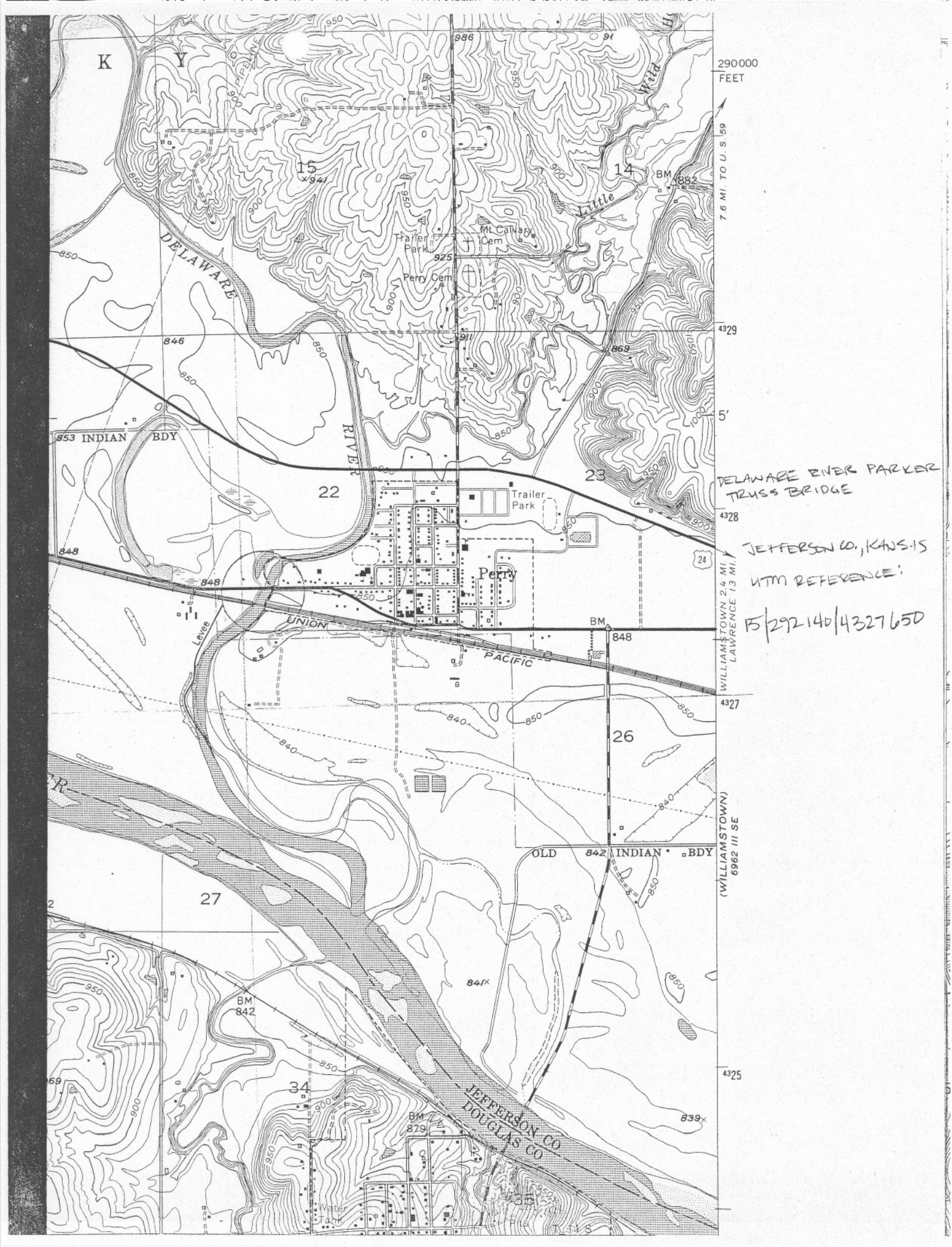
Boundary Justification:
The boundary includes the truss, deck, abutments, and associated approaches that represent the significant features associated with the bridge structure.

PHOTO LOG

Photographer: Kerry Davis
Date of Photographs: February 2002
Location of Original Negative: Kansas State Historical Society, Topeka, Kansas

Photograph Number	Camera View
1.	View NE, bridge truss and abutments
2.	View W, along roadway
3.	View SW, bridge truss and abutments
4.	View NW, truss understructure and west abutment
5.	View W, along roadway
6.	View N, upper chord, posts, tie, sway bracing detail





DELAWARE RIVER PARKER TRUSS BRIDGE

JEFFERSON CO., KANSAS

UTM REFERENCE:

15/292140/4327650